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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/535,375 | 05/19/2005 | Frank-Olaf Mahling | LU 6066 (US) | 1622 |
| 24114 | 7590 | 09/19/2008 | | |
| LyondellBasell Industries 3801 WEST CHESTER PIKE NEWTOWN SQUARE, PA 19073 | | | EXAMINER NGUYEN, NGOC YEN M | |
| | | | ART UNIT 1793 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/535,375

Applicant(s)

MAHLING ET AL.

Examiner

Ngoc-Yen M. Nguyen

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 13-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-08)
Paper No(s)/Mail Date 8/11/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Applicant's election without traverse of Group I, claims 1-12, 19-21 in the reply filed on July 21, 2008 is acknowledged.

Claims 13-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on July 21, 2008.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-12, 19-21 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The use of inert gas to take up the oxidizable compounds from the particles is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). As stated in the instant claim 1, the "at least one volatile oxidizable compound" can form "an explosive mixture with oxygen", thus, if an oxygen-containing gas is used as the claimed "gas stream", an explosive mixture will be formed and the process would not be a safe process for removing the at least one volatile oxidizable compound.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobst et al (4,372,758) in view of either Sobukawa et al (6,492,298)).

Bobst '758 discloses a process for removing unpolymerized gaseous monomers from a solid olefin polymer containing said gaseous monomers which comprises: conveying said polymer to a purge vessel in a first gas stream, said gas being inert to said polymer and monomers and containing substantially no oxygen; feeding a purge gas to said purge vessel, said purge gas being inert to said resin and said monomers and containing substantially no oxygen; countercurrently contacting said polymer and said purge gas in said purge vessel to produce a second gas stream containing said purge gas, said conveying gas and said gaseous monomers and a polymer stream having a reduced amount of said gaseous monomers; and recycling a portion of said second gas stream to said purge vessel (note claim 1).

The monomers to be removed can be ethylene, one or more of the hydrocarbon comonomers, saturated hydrocarbons and non-reactive hydrocarbon olefins (note column 3, lines 38-45). It would have been obvious to one skilled in the art to use the process of Bobst '758 to remove any gaseous monomers from any polymer (in solid or other forms) as long as the gaseous monomers contained in the polymer can be diffused out into and being removed by the gas purge stream.

The purge gas is preferred to be nitrogen (note claim 5).

After removing the second gas stream from the purge vessel, a portion of second gas stream is vented to a flare and the remaining is recycled back as the first gas stream (note Figure 1) or as the purge gas (note Figure 2).

The difference is Bobst '758 does not disclose the step of treating the second gas stream before recycling it to the purge vessel.

Sobukawa '298 discloses an ordinary-temperature purifying catalyst comprising an oxide having an oxygen defect introduced by a reduction treatment and a noble metal loaded on the oxide (note claim 1). The catalyst can decompose and remove ethylene in an ordinary temperature range (note column 4, lines 57-58) by contacting the catalyst with air (as an oxygen-containing gas) containing the ethylene (note claim 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to remove ethylene in the second gas stream in the process of Bobst '758 by using an ordinary temperature purifying catalyst as suggested by Sobukawa '298 because using such catalyst would save energy (as compared when a "flare" is used) and more of the inert gas in the second gas stream can be recycled (no inert gas is lost in the "flare") thereby saving the cost of fresh inert gas.

Since air is required when using the ordinary temperature purifying catalyst to remove the ethylene, the resulting purified gas may contain some residual oxygen. However, Bobst '758 clearly teaches that the presence of oxygen in the purging vessel creates safety problems in view of the explosive nature of the hydrocarbon monomers

at higher concentrations (note column 6, lines 1-4). Thus, it would have been obvious to one of ordinary skill in the art to minimize the amount of oxygen in the purified gas so that when it being recycled back to the purging vessel, it would not cause any safety problem.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen M. Nguyen whose telephone number is (571) 272-1356. The examiner can normally be reached on Part time schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ngoc-Yen M. Nguyen/
Primary Examiner, Art Unit 1793

nmn
September 20, 2008